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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/804,893

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Susan Ann Bevers

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07/15/2002

HALE AND DORR, LLP
60 STATE STREET
BOSTON, MA 02109

EXAMINER

EPPERSON, JON D

ART UNIT

PAPER NUMBER

1627

DATE MAILED: 07/15/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary*File Copy*

Application No.

09/804,893

Applicant(s)

BEVERS ET AL.

Examiner

Jon D Epperson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☐ Claim(s) ____ is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☒ Claim(s) 1-33 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other:

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DETAILED ACTION

Please Note: In an effort to enhance communication with our customers and reduce processing time, Group 1627 is running a Fax Response Pilot for Written Restriction Requirements. A dedicated Fax machine is in place to receive your responses. The fax number is (703) 308-4315. A fax cover sheet is attached to this Office Action for your convenience. We encourage your participation in this Pilot program. If you have any questions or suggestions please contact Jyothsna Venkat, Supervisory Patent Examiner, at (703) 308-2439. Thank you in advance for allowing us to enhance our customer service. Please limit the use of this dedicated Fax number to responses to Written Restrictions.

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I Claims 1 and 3-5, 12 drawn to a product described as a “visually detectable biomolecule of formula B-(-L-(D)_m)_n”, classified variously in class 585, subclass 24, 25, 26 and class 436, subclass 546.
 - II-V Claims 2 (in part), 6-7 (in part), 13 (in part) drawn to a product for a “visually detectable biomolecule of formula B-(-L-(P)_m)_n” wherein P is perylene (Group II, includes claims 2 (in part) and claims 6-11), anthracene (Group III, includes only claim 2 (in part)), naphthalene (Group IV, includes only claim 2 (in part)), pyrene derivative (Group V, includes only claim 2 (in part)). The inventions are classified variously in class 585, subclass 24, 25, 26.
 - VI Claim 8 drawn to a product described as a “visually detectable biomolecule of formula B-(-L-(D)_m)_n”, wherein P has the formula given in claim 8, classified in class 585, subclass 24, 25, 26.

- VII Claim 9 drawn to a product described as a “visually detectable biomolecule of formula $B-(-L-(D)_m)_n$ ”, wherein P has the formula given in claim 9, classified in class 585, subclass 24, 25, 26.
- VIII Claim 10 drawn to a product described as a “visually detectable biomolecule of formula $B-(-L-(D)_m)_n$ ”, wherein P has the formula given in claim 10, classified in class 585, subclass 24, 25, 26.
- IX Claim 11 drawn to a product described as a “visually detectable biomolecule of formula $B-(-L-(D)_m)_n$ ”, wherein P has the formula given by claim 11, classified in class 585, subclass 24, 25, 26.
- X Claim 14 drawn to a kit for “determining the size of a test biomolecule”, classified in class 585, subclass 24, 25, 26.
- XI-XIV Claim 15 (in part) drawn to a kit for “determining the size of a test biomolecule”, wherein P is perylene (Group XI), anthracene (Group XII), naphthalene (Group XIII), pyrene derivative (Group XIV). The inventions are classified variously depending on their structures, for example, the invention is classified in class 585, subclass 24, 25, 26.
- XV-XIX Claim 16 (in part) drawn to a method for “determining the size of a test biomolecule”, wherein P refers to the compounds in claim 14 (Group XV), P refers to perylene (Group XVI), anthracene (Group XVII), naphthalene (Group XVIII), pyrene derivative (Group XIX). The inventions are classified variously depending on their structures, for example, the invention is classified in class 422, subclass 82.077 and class 585, subclass 24, 25, 26.

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- XX Claims 17 and 19, 21-24 drawn to a method for “visually detecting a biomolecule”, classified in class 422, subclass 82.077 and in class 585, subclass 24, 25, 26.
- XXI-XXIV Claims 18 (in part) and 20 (in part) drawn to a method for “visually detecting a biomolecule”, wherein P is perylene (Group XXI), anthracene (Group XXII), naphthalene (Group XXIII), pyrene derivative (Group XIV). The inventions are classified variously in class 422, subclass 82.077 and in class 585, subclass 24, 25, 26.
- XXV Claim 25 drawn to a method for “visually detecting a biomolecule”, wherein P has the formula given in claim 25, classified variously in class 422, subclass 82.077 and in class 585, subclass 24, 25, 26.
- XXVI Claim 26 drawn to a method for “visually detecting a biomolecule”, wherein P has the formula given in claim 26, classified variously in class 422, subclass 82.077 and in class 585, subclass 24, 25, 26.
- XXVII Claim 27 drawn to a method for “visually detecting a biomolecule”, wherein P has the formula given in claim 27, classified in class 585, subclass 24, 25, 26.
- XXVIII Claim 28 drawn to a product described as a “reactive dye of formula(D)_n-L-X”, classified in class 585, subclass 24, 25, 26.
- XXIX-XXXII Claims 29 (in part), 32-33 drawn to a product described as a “reactive dye of formula (P)_n-L-X, wherein P is perylene (Group XXIX), anthracene (Group XXX), naphthalene (Group XXXI), pyrene derivative (Group XXXII). The

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inventions are classified variously depending on their structures, for example, the invention is classified in class 585, subclass 24, 25, 26.

XXXIII-XXXV Claim 30 (in part), 31-33 drawn to a product described as a “reactive dye of formula (P)_n-L-X, wherein P is the first formula given (Group XXXIII), second formula given (Group (XXXIV)), or third formula given (Groups XXXV). The inventions are classified variously depending on their structures, for example, the invention is classified in class 585, subclass 24, 25, 26.

2. The inventions are distinct, each from the other because of the following reasons:

3. These inventions have acquired a separate status in the art as shown by their different classification and/or divergent subject matter. The different methods and products would require completely different searches in both the patent and non-patent databases, and there is no expectation that the searches would be coextensive. Therefore, this does create an undue search burden, and restriction for examination purposes as indicated is proper.

4. Groups I-IX and XXVIII-XXXV represent patentably distinct products. Groups I-IX and XXVIII-XXXV represent separate and patentably distinct products because they differ in respect to their properties, their use and the synthetic methodology for making them. For example, perylene, anthracene, naphthalene and pyrene derivatives have different core structures (they are not just Markush groups), are made from different starting materials, and can be used for

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different purposes (the inventions would have different light-absorbing properties and different thermal stabilities). Furthermore, reactive dyes, Groups XXVIII-XXXV, have different core structures, reactivity and uses than visually detectable biomolecules i.e., Groups I-IX (the dyes have a functional group for linkage to a biomolecule i.e., X, whereas the visually detectable biomolecules are already linked and thus have very different properties depending on the type of biomolecule the chromophore is linked to). Consequently, searching Groups I-IX and XXVIII-XXXV together would represent an undue search burden. In addition, art anticipating or rendering obvious each Group i.e., Groups I-IX and XXVIII-XXXV would not render obvious another group, because they are drawn to different inventions that have different distinguishing features and/or characteristics (a demonstrated ability to render obvious a visually detectable biomolecule from pyrene would not render obvious an ability to do the same with naphthalene). Each group will support separate patents. Consequently, Groups I-IX have different issues regarding patentability and enablement and represent patentably distinct subject matter.

5. Groups I-IX and XXVIII-XXXV represent separate and patentably distinct products than Groups X-XIV. They differ in respect to their properties, their use and the synthetic methodology for making them. In the instant case, Groups X-XIV refer to a plurality of articles grouped together to form a “kit”, whereas Groups I-IX and XXVIII-XXXV refer to only a single article described as either a “visually detectable biomolecule” or a “reactive dye.” In addition, art anticipating or rendering obvious a “visually detectable biomolecule” or “reactive dye” would not render obvious a “kit for determining the size of a test biomolecule”, because they are drawn to different inventions that have different distinguishing features and/or characteristics. Each

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group will support separate patents. Consequently, searching these Groups together would represent an undue search burden. Therefore, Groups I-IX and XXVIII-XXXV and Groups X-XIV have different issue regarding patentability and enablement and represent patentably distinct subject matter.

6. Groups X-XIV represent patentably distinct products. Groups X-XIV represent separate and patentably distinct products because they differ in respect to their properties, their use and the synthetic methodology for making them. For example, perylene, anthracene, naphthalene and pyrene derivatives have different core structures (they are not just Markush groups), are made from different starting materials, and can be used for different purposes. Consequently, searching Groups X-XIV together would represent an undue search burden, in addition, many of these compounds fall under many different US classification numbers (see paragraph 1 above). In addition, art anticipating or rendering obvious each Group i.e., Groups X-XIV would not render obvious another group, because they are drawn to different inventions that have different distinguishing features and/or characteristics (a demonstrated ability to render obvious a visually detectable biomolecule from pyrene would not render obvious an ability to do the same with naphthalene). Each group will support separate patents. Consequently, Groups X-XIV have different issues regarding patentability and enablement and represent patentably distinct subject matter.

7. Groups I-XIV and XXVIII-XXXV represent separate and patentably distinct products than Groups XV-XXVII because Groups I-XIV and XXVIII-XXV are drawn to products claims,

whereas claims XV-XXVIII are drawn to methods claims. However, if applicant argues that the product claims are related to the method claims as product and process of use, the inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (MPEP § 806.05(h)). In the instant case, the product as claimed can be used in a materially different process of using the product, for example, the product could be used in reprographic processes, solar cells, photovoltaic devices, and as pigments.

8. Groups XV-XXVII represent patentably distinct methods. The methods are different because they use different steps, require different reagents and/or will produce different results. In this case, each Group i.e., Groups XV-XXVII, will require different reagents e.g., perylene, anthracene, naphthalene and pyrene, etc. and, as a result, will also require different method steps. Furthermore, the method steps of each Group i.e., Groups XV-XXVII, will produce different results. For example, a pyrene will not give the same results as an anthracene. Consequently, examining Groups XV-XXVII together will require searching different reagents, different method steps, and different products, which in most cases will fall under many different US classification numbers (see the bottom of paragraph 3 above). Therefore, searching Groups XV-XXVII together would represent an undue search burden. In addition, art anticipating or rendering obvious each Group i.e., Groups XV-XXVII would not render obvious another group, because they are drawn to different inventions that have different distinguishing features and/or characteristics. Each group will support separate patents. Consequently, Groups XV-XXVII

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have different issues regarding patentability and enablement and represent patentably distinct subject matter.

9. This application contains claims directed to patentably distinct species of the claimed invention for Groups I-XXXII. Election is required as follows.

10. If applicant elects any of the inventions from Groups I-XIX, applicant is required to elect from the following patentably distinct species.

Subgroup 1: Species of visually detectable biomolecule (see claim 1)

Applicant is required to elect, for purposes of a search, a single specific species of visually detectable biomolecule. Furthermore, a specific structure must be set forth, which clearly shows all of the atoms and bonds that are necessary to define the visually detectable biomolecule including the biomolecule (B), linker (L) and photostable visible dye (D) or (P). Applicant should not use notations like B, L, D, R¹, R², etc. when identifying the elected structure because these letters represent groups with variable members and, as a result, more than one species would be erroneously elected. Furthermore, applicant must disclose which claims read on the elected species.

11. Furthermore, if applicant elects any of the inventions from Groups XX-XXVII, applicant is required to elect from the following patentably distinct species.

Subgroup 2: Species of visually detectable biomolecule (see claim 20)

Applicant is required to elect, for purposes of a search, a single specific species of visually detectable biomolecule. Furthermore, a specific structure must be set forth, which clearly shows all of the atoms and bonds that are necessary to define the visually detectable biomolecule including the biomolecule (B), linker (L) and photostable visible dye (D) or (P). Applicant should not use notations like B, L, D, R¹, R², etc. when identifying the elected structure because these letters represent groups with variable members and, as a result, more than one species would be erroneously elected. Furthermore, applicant must disclose which claims read on the elected species.

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Subgroup 3: Species of dye (see claim 20)

Applicant is required to elect, for purposes of a search, a single specific species of dye. Furthermore, a specific structure must be set forth, which clearly shows all of the atoms and bonds that are necessary to define the dye including (X), (L) and (D) or (P).

Applicant should not use notations like X, L, D, R¹, R², etc. when identifying the elected structure because these letters represent groups with variable members and, as a result, more than one species would be erroneously elected. Furthermore, applicant must disclose which claims read on the elected species.

12. If applicant elects any of the inventions from Groups XVIII-XXXV, applicant is required to elect from the following patentably distinct species.

Subgroup 4: Species of dye (see claim 20)

Applicant is required to elect, for purposes of a search, a single specific species of dye. Furthermore, a specific structure must be set forth, which clearly shows all of the atoms and bonds that are necessary to define the dye including (X), (L) and (D) or (P).

Applicant should not use notations like X, L, D, R¹, R², etc. when identifying the elected structure because these letters represent groups with variable members and, as a result, more than one species would be erroneously elected. Furthermore, applicant must disclose which claims read on the elected species.

13. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

14. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

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15. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

16. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

17. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.43). Because the above restriction/election requirement is complex, a telephone call to applicants to request an oral election was not made. See MPEP § 812.01.

18. Applicant is reminded that upon cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

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19. Applicant is also reminded that a 1 – month (not less than 30 days) shortened statutory period will be set for response when a written requirement is made without an action on the merits. This period may be extended under the provisions of 37 CFR 1.136(a). Such action will not be an “action on the merits” for purposes of the second action final program, see MPEP 809.02(a).


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (703) 308-2423. The examiner can normally be reached Monday through Friday from 8:30 a.m. to 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Jyothsna Venkat can be reached on (703) 308-2439. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2439.

Jon D. Epperson, Ph.D.
July 2, 2002


DR. JYOTHSNA VENKAT PH.D.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1600

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